

Please amend the application as follows:

In the Claims

Please cancel Claims 3-6, 10, 11, 42, 72, 74, 76-79, 82, 84-152. Please add new Claims 153-240.

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153. (New) A method for altering angiogenesis in a mammal, comprising administering to the mammal, in a therapeutically effective quantity, an agent which alters the specific binding of an artery-specific Ephrin family ligand and a vein-specific Eph family receptor.
154. (New) The method of Claim 153 wherein the agent interferes with the specific binding of the Ephrin family ligand and the Eph family receptor.
155. (New) The method of Claim 153 wherein the agent comprises an agonist selected from the group consisting of an agonist of the Ephrin family ligand and an agonist of the Eph family receptor.
- 31 156. (New) The method of Claim 153 wherein the agent comprises an antagonist selected from the group consisting of an antagonist of the Ephrin family ligand and an antagonist of the Eph family receptor.
157. (New) A method for enhancing angiogenesis in a mammal, comprising administering to the mammal, in a therapeutically effective quantity, an agent which comprises an agonist of an artery-specific Ephrin family ligand or an agonist of a vein-specific Eph family receptor.
158. (New) The method of Claim 157 wherein the agent comprises a soluble agonist comprising an extracellular domain of an Ephrin family ligand fused to an Fc domain of an antibody.

159. (New) The method of Claim 158 wherein the Fc domain of an antibody is an Fc domain of a human IgG antibody.
160. (New) The method of Claim 158 wherein the soluble agonist is in clustered form.
161. (New) The method of Claim 157 wherein the agent is administered locally to enhance vascularization.
162. (New) The method of Claim 157 wherein the mammal is a human.
163. (New) A method for inhibiting angiogenesis in a mammal, comprising administering to the mammal, in a therapeutically effective quantity, an agent which comprises an antagonist of an artery-specific Ephrin family ligand or an antagonist of a vein-specific Eph family receptor.
164. (New) The method of Claim 163 wherein the agent interferes with the specific binding of the Ephrin family ligand and the Eph family receptor.
165. (New) The method of Claim 163 wherein the agent comprises an antibody selected from the group consisting of an antibody which binds to the Ephrin family ligand and an antibody which binds to the Eph family receptor.
166. (New) The method of Claim 165 wherein the antibody is a polyclonal antibody.
167. (New) The method of Claim 165 wherein the antibody is a monoclonal antibody.

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168. (New) The method of Claim 163 wherein the agent comprises an antagonist selected from the group consisting of:
- i) a soluble antagonist comprising an extracellular domain of the Ephrin family ligand fused to an Fc domain of an antibody; and
 - ii) a soluble antagonist comprising an extracellular domain of the Eph family receptor fused to an Fc domain of an antibody.
169. (New) The method of Claim 163 wherein the agent comprises an antagonist selected from the group consisting of:
- i) a soluble antagonist comprising an extracellular domain of the Ephrin family ligand fused to an Fc domain of a human IgG antibody; and
 - ii) a soluble antagonist comprising an extracellular domain of the Eph family receptor fused to an Fc domain of a human IgG antibody.
170. (New) The method of Claim 168 wherein the antagonist is in non-clustered form.
171. (New) The method of Claim 163 wherein the agent is administered locally to a site of angiogenesis.
172. (New) The method of Claim 171 wherein the site of angiogenesis is a tumor.
173. (New) The method of Claim 163 wherein the mammal is a human.
174. (New) A method for altering angiogenesis in a mammal, comprising administering to the mammal, in a therapeutically effective quantity, an agent which alters the specific binding of EphrinB2 and EphB4.
175. (New) The method of Claim 174 wherein the agent interferes with the specific binding of EphrinB2 and EphB4.

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176. (New) The method of Claim 174 wherein the agent comprises an agonist selected from the group consisting of an agonist of EphrinB2 and an agonist of EphB4.
177. (New) The method of Claim 174 wherein the agent comprises an antagonist selected from the group consisting of an antagonist of EphrinB2 and an antagonist of EphB4.
178. (New) A method for enhancing angiogenesis in a mammal, comprising administering to the mammal, in a therapeutically effective quantity, an agent which comprises an agonist of EphrinB2 or an agonist of EphB4.
179. (New) The method of Claim 178 wherein the agent comprises a polypeptide selected from the group consisting of:
- i) a soluble polypeptide comprising an extracellular domain of EphrinB2;
and
 - ii) a soluble polypeptide comprising an antigenic portion of an extracellular domain of EphrinB2.
180. (New) The method of Claim 178 wherein the agent comprises a soluble agonist, wherein said soluble agonist comprises an extracellular domain of EphrinB2 fused to an Fc domain of an antibody.
181. (New) The method of Claim 180 wherein the soluble agonist is in clustered form.
182. (New) The method of Claim 178 wherein the agent is administered locally to enhance vascularization.
183. (New) The method of Claim 178 wherein the mammal is a human.

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184. (New) A method for inhibiting angiogenesis in a mammal, comprising administering to the mammal, in a therapeutically effective quantity, an agent which comprises an antagonist of EphrinB2 or an antagonist of EphB4.
185. (New) The method of Claim 184 wherein the agent interferes with the specific binding of EphrinB2 and EphB4.
186. (New) The method of Claim 184 wherein the agent comprises an antibody selected from the group consisting of an antibody which binds to EphrinB2 and an antibody which binds to EphB4.
187. (New) The method of Claim 186 wherein the antibody is a polyclonal antibody.
188. (New) The method of Claim 186 wherein the antibody is a monoclonal antibody.
189. (New) The method of Claim 184 wherein the agent comprises an antagonist selected from the group consisting of:
- i) a soluble antagonist comprising an extracellular domain of EphrinB2 fused to an Fc domain of an antibody; and
 - ii) a soluble antagonist comprising an extracellular domain of EphB4 fused to an Fc domain of an antibody.
190. (New) The method of Claim 184 wherein the agent comprises an antagonist selected from the group consisting of:
- i) a soluble antagonist comprising an extracellular domain of EphrinB2 fused to an Fc domain of a human IgG antibody; and
 - ii) a soluble antagonist comprising an extracellular domain of EphB4 fused to an Fc domain of a human IgG antibody.
191. (New) The method of Claim 189 wherein the antagonist is in non-clustered form.

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192. (New) The method of Claim 184 wherein the agent is administered locally to a site of angiogenesis.
193. (New) The method of Claim 192 wherein the site of angiogenesis is a tumor.
194. (New) The method of Claim 184 wherein the mammal is a human.
195. (New) A method for selectively delivering an agent to arteries in a mammal, comprising administering to the mammal a complex comprising:
- a) the agent; and
 - b) a component which binds an artery-specific Ephrin family ligand, under conditions appropriate for the component of (b) to bind the Ephrin family ligand, whereby the agent is delivered to arteries.
196. (New) The method of Claim 195 wherein the agent is an angiogenic agent.
197. (New) The method of Claim 195 wherein the agent is an anti-angiogenic agent.
198. (New) The method of Claim 195 wherein the agent is selected from the group consisting of a drug, a diagnostic agent, an environmental factor and a dietary factor.
199. (New) The method of Claim 195 wherein the agent is an anti-plaque agent.
200. (New) The method of Claim 195 wherein the agent is selected from the group consisting of a growth factor and a cytokine.
201. (New) The method of Claim 195 wherein the agent comprises a radioactive isotope.
202. (New) The method of Claim 195 wherein the agent is a diagnostic agent.

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203. (New) The method of Claim 202 wherein the diagnostic agent comprises a label selected from the group consisting of a radioactive label, a fluorescent label, a colorimetric label, an enzyme label, an antigenic label, an epitopic label and a biotin label.
204. (New) The method of Claim 195 wherein the agent is a histological stain.
205. (New) The method of Claim 195 wherein the component in b) is an antibody which binds to the Ephrin family ligand.
206. (New) The method of Claim 195 wherein the component in (b) is selected from the group consisting of:
- i) a soluble polypeptide comprising an extracellular domain of a receptor of the Ephrin family ligand; and
 - ii) a soluble polypeptide comprising an antigenic portion of an extracellular domain of a receptor of the Ephrin family ligand.
207. (New) The method of Claim 195 wherein the agent is an angiogenic agent and the component of (b) is selected from the group consisting of:
- i) an antibody which binds to the Ephrin family ligand; and
 - ii) a soluble polypeptide comprising an extracellular domain of a receptor of the Ephrin family ligand.
208. (New) The method of Claim 195 wherein the agent is an anti-angiogenic agent and the component of (b) is selected from the group consisting of:
- i) an antibody which binds to the Ephrin family ligand; and
 - ii) a soluble polypeptide comprising an extracellular domain of a receptor of the Ephrin family ligand.
209. (New) The method of Claim 195 wherein the complex is a fusion protein.

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210. (New) The method of Claim 209 wherein the fusion protein comprises a moiety selected from the group consisting of alkaline phosphatase, blue fluorescent protein, green fluorescent protein and β -galactosidase.
211. (New) The method of Claim 195 wherein the mammal is a transgenic mammal.
212. (New) The method of Claim 195 wherein the mammal is a human.
213. (New) A method for selectively delivering an agent to arteries in a mammal, comprising administering to the mammal a complex comprising:
- a) the agent; and
 - b) a component which binds EphrinB2,
- under conditions appropriate for the component of (b) to bind EphrinB2, whereby the agent is delivered to arteries.
214. (New) The method of Claim 213 wherein the agent is an anti-angiogenic agent.
215. (New) The method of Claim 213 wherein the agent is an angiogenic agent.
216. (New) The method of Claim 213 wherein the agent is selected from the group consisting of a drug, a diagnostic agent, an environmental factor and a dietary factor.
217. (New) The method of Claim 213 wherein the agent is an anti-plaque agent.
218. (New) The method of Claim 213 wherein the agent is selected from the group consisting of a growth factor and a cytokine.
219. (New) The method of Claim 213 wherein the agent comprises a radioactive isotope.
220. (New) The method of Claim 213 wherein the agent is a diagnostic agent.

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221. (New) The method of Claim 220 wherein the diagnostic agent comprises a label selected from the group consisting of a radioactive label, a fluorescent label, a colorimetric label, an enzyme label, an antigenic label, an epitopic label and a biotin label.
222. (New) The method of Claim 213 wherein the agent is a histological stain.
223. (New) The method of Claim 213 wherein the component in b) is an antibody which binds to EphrinB2.
224. (New) The method of Claim 213 wherein the component in (b) is selected from the group consisting of:
- i) a soluble polypeptide comprising the extracellular domain of EphB4; and
 - ii) a soluble polypeptide comprising an antigenic portion of the extracellular domain of EphB4.
225. (New) The method of Claim 213 wherein the agent is an anti-angiogenic agent and the component of (b) is an antibody which binds to EphrinB2.
226. (New) The method of Claim 213 wherein the agent is an angiogenic agent and the component of (b) is an antibody which binds to EphrinB2.
227. (New) The method of Claim 213 wherein the complex is a fusion protein.
228. (New) The method of Claim 227 wherein the fusion protein comprises a moiety selected from the group consisting of alkaline phosphatase, blue fluorescent protein, green fluorescent protein and β -galactosidase.
229. (New) The method of Claim 213 wherein the mammal is a transgenic mammal.
230. (New) The method of Claim 229 wherein the transgenic mammal is a mouse.

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231. (New) The method of Claim 213 wherein the mammal is a human.
232. (Amended) A method for altering development of blood vessels in a mammal, comprising administering to the mammal a soluble polypeptide comprising the extracellular domain of an artery-specific Ephrin family ligand or a soluble polypeptide comprising the extracellular domain of a vein-specific Eph family receptor.
233. (New) The method of Claim 232 comprising administering to the mammal a soluble polypeptide comprising the extracellular domain of an artery-specific Ephrin family ligand, thereby enhancing the growth of blood vessels.
234. (New) The method of Claim 232 comprising administering to the mammal a soluble polypeptide comprising the extracellular domain of an Eph family receptor, thereby inhibiting the growth of blood vessels.
235. A method for enhancing development of blood vessels in a mammal, comprising administering to the mammal a soluble polypeptide comprising the extracellular domain of EphrinB2.
236. (New) The method of Claim 235 wherein the soluble polypeptide comprising the extracellular domain of EphrinB2 is fused to an Fc domain of an antibody.
237. (New) The method of Claim 235 wherein the mammal is a human.
238. A method for inhibiting development of blood vessels in a mammal, comprising administering to the mammal a soluble polypeptide comprising the extracellular domain of EphB4.
239. (New) The method of Claim 238 wherein the soluble polypeptide comprising the extracellular domain of EphB4 is fused to an Fc domain of an antibody.

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